

**U. S. EPA Targeted Watersheds Grant Program Nomination
Skagit River Initiative**

1. Skagit River Watershed HUC Codes:

17110007 Lower Skagit River
17110005 Upper Skagit River

2. Streams on Washington State's 303 (d) list:

Browns Slough
Carpenter Creek
Coal Creek
Cumberland Creek
Day Creek
Finney Creek
Fisher Creek
Gages Slough
Grandy Creek
Hansen Creek
Ketchum Lake
Nookachamps Creek
East Fork Nookachamps Creek
Otter Pond Creek
Red Creek
Skagit Bay and Similk Bay
Skagit River
Sorenson Creek
Turner Creek
Wiley Slough
Wiseman Creek

3. Nominee:

Bob Carey
The Nature Conservancy
410 N. 4th Street
Mount Vernon, WA 98273
360-419-9825
bcarey@tnc.org

4. Web page: www.nature.org/washington

Abstract.

The Skagit River watershed is home to Puget Sound's largest populations of migratory birds and *Threatened* Chinook salmon. It is also the last stronghold of farming in Western Washington. After years of conflict and litigation, two landmark agreements between Skagit River Indian Tribes and Skagit valley farmers have opened the door for the long-term protection of farmland and the recovery of Chinook. Implementation of these agreements will result in improved water quality, support for farmland preservation and the maintenance of agricultural drainage systems, and the restoration of estuarine habitats vital to numerous species of fish and wildlife. Elements of the Skagit Initiative include: (1) development of an incentives-based land bank and cover crop program that restores habitat, protects farmland, and enhances water quality, (2) implementation of drainage management practices that will protect and restore fish populations, and (3) water quality monitoring on farmland to test the results of these efforts.

INTRODUCTION. The Skagit River is one of the Northwest’s mightiest and most beautiful rivers—a long and sinuous corridor that begins in the mountains of British Columbia and empties, 120 miles later, into Puget Sound. Along the way, it nourishes a 3,000-square-mile watershed that is one of the Northwest’s signature landscapes. Within the contiguous United States, the Skagit River is the third largest river on the West Coast and the only river system that supports all six species of Pacific salmon (including steelhead), and the largest populations of federally *Threatened* Puget Sound Chinook salmon and bull trout in Washington. It is home to some of the largest and most diverse shorebird, waterfowl and raptor populations in the U.S. There are four federally recognized Indian Tribes within the Skagit watershed. The soils and climate of the Skagit delta provide some of the most productive farming conditions in the world. Over eighty crops are produced here, contributing about \$600 million annually to the local economy, but intense development pressures are eroding the agricultural land base.

Largely as a result of the conversion of wetlands to productive agricultural lands, nearly 72% of the Skagit River’s 29,000 acres of historic tidal wetlands have been lost. The health and productivity of the remaining estuary is limited by the loss of hydrologic connections to freshwater sources. More than 20 streams within the Skagit River watershed are on Washington State’s 303(d) list of water quality impaired water bodies. The decline of Chinook salmon and the continuing declines in numerous species of shorebirds and waterfowl are significantly tied to the changes in water quality and hydrology created through these land use conversions, both in the Skagit and across species’ ranges.

Numerous planning efforts have focused on the role of estuarine habitats for native fish and wildlife species. Publicly available documents that identify Skagit delta estuarine habitats as the highest restoration priority include: the Skagit Watershed Council’s basin-wide restoration strategy, the Washington State Conservation Commission’s Salmon Habitat Limiting Factors analysis, House

Bill 1418 Task Force Report to the Washington State Legislature, and the Skagit Basin Chinook Recovery Plan developed jointly by the Washington Department of Fish & Wildlife and the Skagit basin Indian Tribes.

Historic wetlands are primarily under the ownership of private agricultural landowners. The loss of farmland to development has long been considered the major threat to the viability of the farming community. Thus the restoration of riverine and tidal wetlands on farmland is particularly problematic for an agricultural community concerned about maintaining a sufficient land base to sustain agriculture. Restoration of wetlands has been the subject of considerable contention, with little progress towards reestablishing ecosystem processes in the delta. Meanwhile efforts to preserve farmland are not keeping pace with development pressures. Farmers are having an increasingly difficult time maintaining the drainage systems they need to maintain productivity and the continued urbanization of the delta only exacerbates water quality, drainage and flood control problems.

The regulatory approaches that have been attempted to date have resulted in years of costly court battles and little progress in improving watershed health. In light of these issues, a consortium of tribal and agricultural interests – the Tribal-Agricultural Alliance – has developed an innovative framework to advance the most critical watershed health needs while working toward the maintenance of a viable farm economy. This innovative approach is based on a reliance on incentives rather than regulations and, importantly, through the direct linking of ecosystem restoration efforts to actions which benefit the agricultural community. The goal of this project is to implement and refine a series of pilot projects that enhance agricultural infrastructure and the economic position of cooperating landowners while providing for critical wetland restoration activities to occur.

DESCRIPTION OF PROJECT ELEMENTS. This project will test new, innovative, voluntary mechanisms aimed at overcoming four of the major threats to watershed health: altered hydrology, wetland habitat loss, water quality degradation and land development. Pilot projects will be implemented in a portion of the Skagit River Delta where significant progress is already underway. Lessons learned through these pilot projects will inform the long-term application of these techniques across the larger landscape and beyond. There are three components to the Skagit Initiative, led by The Nature Conservancy (TNC), Skagit River System Cooperative (SRSC) and Western Washington Agricultural Association (WWAA), respectively. Other primary partners include Washington State University (WSU) and Skagitonians to Preserve Farmland (SPF).

(1) Conservation and Restoration Incentives. The restoration of tidal wetlands has been identified as the highest conservation priority in the Skagit River basin. However, progress toward implementing restoration actions has been hampered by the community's desire to preserve as much of its remaining agricultural land base as possible. Continued development of farmland also poses a significant long-term threat to watershed health. This program element will explore and implement landowner incentive mechanisms that work to conserve or restore key habitats in the Skagit Delta in concert with protecting farmland. This element will result in two pilot projects that will: 1) test an voluntary, market-based land protection program in which farmland that is threatened by development would be "banked" in perpetuity in "exchange" for private farmland that is acquired for wetland restoration; and 2) develop and test voluntary, incentive-based "habitat rotations," in which landowners are paid to grow cover crops during fallow years. The rotation will provide key forage habitat for declining wildlife species, reduce sediment and chemical runoff, and improve soil fertility.

(a) Land Bank: Building on recent agreements between the conservation and agricultural communities the first pilot project will focus on implementing wetland restoration actions on land

adjacent to Fisher Slough. Funding for designing this project has already been secured through the state Salmon Recovery Funding Board and The Nature Conservancy has begun acquiring land for restoration. In addition, conservation easements will be acquired on adjacent lands to prevent development and maintain water quality. The purchase of development rights is significant insofar as the continued erosion of the land base to development is the biggest threat to the viability of farming in the Skagit watershed. By creating a land bank that establishes a quid pro quo system that links the restoration of water resources to the preservation of productive farmland, a win-win situation is achieved. The conservation community attains critical ecosystem goals at Fisher Slough. Meanwhile, the land-base of the surrounding area is stabilized through the purchase of targeted development rights. EPA funding will be used to leverage additional private and public restoration and preservation funding and will pay for no more than 50% of any land right purchase.

(b) Habitat Friendly Farming: The second pilot project will test an innovative approach to achieving watershed habitat goals on working farmland. Emphasis will be placed on the development and testing of voluntary “habitat rotations,” in which landowners are paid to grow wildlife-friendly cover crops and manage fields for the protection of fish and wildlife during fallow years. These rotations will provide forage habitat for declining species of shorebirds and reduce sediment and chemical runoff. While the Skagit Delta is a critical migratory stopover for shorebirds, the lack of tidal wetlands is a limiting factor for numerous species of migratory shorebirds that are pushed inland during daily tidal cycles when tidal waters advance upon bay front levee systems. Working with farmers, agronomists and appropriate agencies, the project will develop new incentive-based techniques to provide wildlife habitat, improve water quality and maintain or improve the economic vitality of participating farmers. In addition to habitat rotations, other mechanisms may be explored including alternative riparian buffer planting strategies and wet soil management techniques.

(2) Drainage Maintenance and Habitat Improvement Project: Farming in the Skagit River delta is dependent on a functional drainage system that, in many cases, utilizes historic water courses as conduits for water removal. Often channel capacity must be maintained within these watercourses through dredging of channels and removal of riparian vegetation, both of which negatively impact water quality and habitat. A landmark agreement between the Washington Department of Fish and Wildlife (WDFW) and Skagit Basin drainage districts, with support from the Swinomish and Sauk-Suiattle Indian Tribes, has resulted in a mechanism whereby stream segments, maintained for years as drainage ditches, can be partially rehabilitated while at the same time improving the efficacy of drainage systems. Further, the frequency of future channel disruptions will be reduced through the implementation of agreed upon BMP's and the implementation of restoration projects. Within the context of a very contentious environment, successful implementation of this agreement will result in a giant step forward in demonstrating the ability of adversarial interests to work in a manner that preserves and enhances the interests of all parties.

(3) Water Quality Assessment and Monitoring Program. Numerous watercourses cross the Skagit delta, each draining water from agricultural fields, municipalities, roadways and our communities at large. Several of these waterways have been found to exceed state water quality standards for temperature, dissolved oxygen and/or fecal coliforms. In addition, general concerns regarding impacts from pesticides, inorganic fertilizers, heavy metals, and industrial wastes have also generated heated debates within our local communities. This program element will build upon local efforts that have recently brought agricultural interests together with tribal communities to collaboratively identify and address issues of mutual concern. It will have two principal components: 1) evaluating local conditions through the implementation of a research designs developed collaboratively by the agricultural and conservation communities; and 2) evaluating the water resource impacts of program elements 1 and 2.

Task List for Project Elements and Three-Year Schedule for Implementation

Project Element (1): <i>Conservation and Restoration Incentives</i>		budget: \$726,483			
Project Lead: TNC Partners: WWAA, SPF, SRSC, WSU					
(a) Land Bank:		Task List, per year:	1	2	3
Pre-award at no cost to project: acquire fee interest in land to be used for wetland restoration.			✓		
Design wetland restoration and drainage system improvements.			✓	✓	
Identify and prioritize measures to be included in conservation easements to meet farmland preservation, flood control and water resource goals.			✓		
Identify and secure conservation easements on highest priority farmlands			✓	✓	✓
Coordinate implementation of linked projects to ensure multiple goals are attained.			✓	✓	✓
Work with partners to implement wetland restoration activities.				✓	✓
Coordinate activities with US Army Corps of Engineers, NOAA-Fisheries and US Fish & Wildlife Service to expedite Federal permits and biological opinions.				✓	✓
Develop and implement monitoring program to evaluate wetland restoration, drainage and water quality benefits. (See Element 3.)			✓	✓	✓
Special Budget Notes for Land Bank: The “Other” budget category includes Farmland Preservation budget of \$127,500 for purchase of development rights on farmland; Restoration budget is \$330,439 for dike work included in “Contractual” category. Travel budget at \$3,100 includes annual trips to national conferences and local conferences for project outreach.					
(b) Habitat Friendly Farming:		Task List, per year:	1	2	3
Form advisory committee consisting of mix of farmers, agronomists and biologists.			✓		
Determine geographically-explicit ecological goals and priorities based on existing assessments and targeted investigations.			✓		
Develop & implement pilot habitat rotation protocols & evaluate farm income impacts.			✓	✓	✓
Implement a monitoring program and evaluate impacts to water and soil quality, wildlife habitat, and farm productivity. Refine protocols as appropriate.			✓	✓	✓
Develop appropriate incentives mechanisms necessary to expand program.				✓	✓
Assess existing public funding sources for capacity to finance the program and develop new public or private sources as needed.				✓	✓
Milestones include: Land acquired for wetland restoration; feasibility and design report for Fisher Slough restoration complete; tidal wetland habitat restored; conservation easements purchased; geographic priorities and protocols for habitat rotations or other stewardship practices; pilot projects implemented that test new farming practices.					
Special Budget Notes for Habitat Friendly Farming: Farmland will be leased for this project. “Other” budget category includes \$32,500 for leasing land using an estimated \$130 per acre price. “Supplies” category amounting to \$22,500 includes seeds and plants using \$90 per acre estimate. “Contractual” category includes shorebird habitat surveys and agricultural project design.					
Expected Environmental Outcomes: Increase in amount of riverine tidal wetland habitat available to listed salmonid species. Increase in high energy forage for migratory waterbirds via leasing and planting 250 acres of farmland in the HFF program Reduction in non point pollution.					

Project Element (2): Drainage Maintenance and Habitat Improvement		budget: \$270,290		
Lead: SRSC	Partners: WWAA, WDFW, Dike District 3, Drainage District 17			
Task list, per year:		1	2	3
Prioritize drainage maintenance/protection projects with each of five Skagit Drainage Districts with salmon streams.		✓		
Complete feasibility and implement priority project within District 17.		✓	✓	
Complete feasibility for two other projects, and secure necessary additional funding.			✓	✓
Implement BMP's during drainage maintenance activities.		✓	✓	✓
Coordinate and support district reporting and planning.		✓	✓	✓
Coordinate activities with federal agencies to obtain permits and concurrence.		✓	✓	✓
Monitor implementation and water quality parameters to determine success.		✓	✓	✓
Milestones include: List of identified habitat restoration projects based on mutual needs; formal agreements with all Drainage Districts in Skagit Delta; drainage districts secure landowner support and land base and/or funding for project implementation; feasibility and design report for priority project in Drainage District #17; agreement from drainage districts and necessary permits received for preferred alternative.				
Expected Environmental Outcomes: Restored wetland habitat within Drainage District #17. Planning and feasibility for projects in another district. Implementation of BMP's during maintenance activities. Improved quantity and quality of wetland habitats for fish & wildlife.				

Project Element (3): Water Quality Assessment & Monitoring Program		budget: \$250,000		
Lead: WWWA	Partners: WSU, TNC, SPF, SRSC	Task list, per year:		
		1	2	3
Establish technical working group comprised of university scientists, agricultural designees, tribal and agency biologists to compile and analyze archival information, formulate issue briefs, and provide recommendations for priority investigations.		✓		
Develop monitoring protocols for project elements 1 & 2.		✓		
Develop a study plan and protocols for monitoring pesticides in waterways.		✓		
Develop study plan and protocols for at least one additional high priority water quality parameter. Measure temperature, dissolved oxygen and/or fecal coliforms as well as pesticides, inorganic fertilizers, heavy metals, and industrial wastes.			✓	
Educate respective communities at study inception on rationale for study design and selected procedures to insure buy-in and acceptance of results once they are obtained.		✓	✓	✓
Leverage resources to secure dedicated means to implement study plans, if additional resources are needed.		✓	✓	✓
Implement study plan(s) and monitoring programs.		✓	✓	✓
Evaluate results in light of current management actions employed by all stakeholders.				✓
Propose and evaluate management practices that address identified issues, and communicate the results in a timely manner to all groups.			✓	✓
Milestones include: Creation of a WSU-Extension moderated Technical Working Group; study plan(s) and protocols developed; baseline conditions established; report produced outlining preliminary results of pilot projects (elements 1 & 2) and of pesticide residue monitoring.				
Expected Environmental Outcomes: Increased stakeholder knowledge and potential behavioral changes. Collaborative solutions relevant to 19 western Washington counties that practice agriculture in riverine floodplain areas.				

Performance Measures and Monitoring. Water quality parameters such as pesticides, dissolved oxygen, temperature, among others identified by collaborators, will be sampled using EPA QA/QC protocols. Environmental performance will be based on meeting Washington State water quality standards. Project performance will also be based on meeting tasks on schedule and within budget. The success of the project will also be measured by acres of habitat acquired for restoration, restored to native wetland, or managed to meet habitat goals, acres of farmland preserved, number of landowners cooperating in the land bank program, and the amount of public and private investment leveraged as a result of the project.

Relationship to Agency mandates and programs. The work plan is consistent with current EPA and DOE efforts in the basin regarding establishment of TMDL's and reduction of pollutants in 303(d) listed water bodies. It will provide a critical element to efforts to develop a recovery plan for listed Chinook salmon. It is complementary to the increased USDA focus on conservation measures as proscribed in the 2003 Farm Bill.

DESCRIPTION OF OUTREACH ACTIVITIES. Unique to this project will be pre-implementation *adoption outreach* for all proposed methodologies, to provide a credible, objective strategy that will assist divergent interests to develop and adaptively manage complex water resource issues in a way that advances the interests of all parties. On-farm demonstration sites showing habitat friendly farming, technologies for coincident drainage maintenance and habitat improvements, and estuarine restoration projects that address agricultural viability issues. This will allow private landowners to make informed decisions regarding sustainable agricultural practices and potential habitat restoration activities on their own farms. We will develop written, visual and web-based products for landowners, agency staff and conservation groups. Outreach activities will be coordinated with WSU Cooperative Extension Skagit County and WSU's Mt. Vernon Research and Extension Center—already education and outreach partners. Specifically, these institutions will assist in recruiting

attendees, providing facilities for conferences and workshops, and coordinating/facilitating local events.

Broader outreach to the wider community will include articles in. Best practices and other results will be shared with local, regional and national groups via presentations at regional and national conferences and articles in local extension publications, the Capital Press, Skagit Valley Herald, other conventional media sources, and organization newsletters and websites. This project will be relevant to 19 western Washington counties that practice agriculture in riverine floodplain areas that include 213,000 acres of cropland and 406,000 head of livestock.

PROJECT MANAGEMENT. TNC, SRSC, and WWAA will each have management responsibilities for specific portions of the project.

Bob Carey, Skagit River Program Manager, TNC (M.A. Environmental Studies/Political Science). Carey has managed the Conservancy's Skagit River program since 1998, has worked in the natural resource management field for 14 years, and has experience in a number of watershed management activities including land acquisition and management, habitat restoration, and scientific research. The Nature Conservancy received over \$97 million in government grants from federal government agencies in the fiscal year ending June 30, 2004.

Steve Hinton, Program Director, SRSC (M.S. Science Policy) currently oversees all administrative functions of the Skagit River System Cooperative. In existence since 1976, SRSC serves as the natural resource management agency for both the Swinomish and Sauk-Suiattle Indian Tribes. Steve currently oversees an annual budget of \$3.5 million and a staff of 30 individuals. Steve has a 15-year history of contract and grant management coupled with extensive hands on experience in habitat restoration.

Mike Shelby, Executive Director, Western Washington Agricultural Association (B.S. Agricultural Education). Shelby has directed WWAA for 3 years, during which time he has managed two USDA

Rural Development Grants totaling \$253,000. He has 29 years experience in agricultural production and processing in Oregon and Washington.

BUDGET MATERIALS: Budget forms are attached to this application. Federal funds requested from the U.S. EPA amount to \$860,801 which will be matched with nonfederal funds in the amount of \$385,972. The proposed nonfederal match ratio for this project is 31%.

GRANT ADMINISTRATION: The Nature Conservancy will be administering this grant, overseeing the work plan, and acting as the fiscal agent. TNC has received over \$97 million in government grants from federal government agencies in the fiscal year ending June 30, 2004. TNC employs over fifty legal and financial professionals who specialize in the management of government-funded projects. This project will be administered by two Grants Specialists experienced in EPA grants, the use of federal funds for land acquisition and subrecipient monitoring.

TNC complies with the requirements of the Office of Management and Budget circulars A-110, A-122 and A-133; A-133 audits have shown no findings in TNC's administration of its government grants. A copy of TNC's A-133 audit is available upon request.

Table 1. BUDGET INFORMATION - EPA Targeted Watershed Program¹

Proposed Budget for Skagit River Initiative

SECTION A - BUDGET SUMMARY				
	Watershed Project, Activity or Work Plan Element	Federal	Non-Federal	Total
	1.) Conservation and Restoration Incentives	\$458,083	268,400	\$726,483
	2.) Drainage Maintenance and Habitat Improvement	\$202,718	\$67,572	\$270,290
	3.) Water Quality Assessment and Monitoring	\$200,000	\$50,000	\$250,000
	Totals	\$860,801	\$385,972	\$1,276,773
SECTION B - BUDGET CATEGORIES				
	Watershed Project, Activity or Work Plan Element			Total
Budget Categories	(1)	(2)	(3)	All projects
a. Personnel	72,857	\$140,500	\$55,298	268,655
b. Fringe Benefits	25,143	37,935	4,702	67,780
c. Travel	6,500	2,200	0	8,700
d. Equipment	0	0	0	0
e. Supplies	22,500	9,400	0	31,900
f. Contractual	373,439	45,000	172,000	590,439
g. Construction	0	0	0	0
h. Other (<i>leasing Ag land; purchase development rights for farmland preservation</i>)	160,000	0	0	160,000
i. Total Direct Charges (sum line a-h)	660,439	\$235,035	232,000	1,127,474
j. Indirect Charges	66,044	35,255	18,000	119,299
TOTALS (sum line i-j)	\$726,483	\$270,290	\$250,000	1,246.773

¹ Excerpted from Standard Form 424A, OMB Circular A-102